

To request diversion credit for the material type sludge when calculating your diversion rate, a jurisdiction must provide documentation to substantiate that the sludge diversion meets certain statutory conditions. Below is a list of questions that will assist in addressing the statutory conditions. Please complete, sign, attach appropriate documentation, and return this form to your Office of Local Assistance (OLA) representative at the address below. Please note that upon review of your request, OLA staff may ask for additional information if the information provided in the form is not clear. OLA staff will review your request as part of the Annual Report/Biennial Review process; therefore, it is recommended that this form be included as part of your Annual Report to the California Integrated Waste Management Board (Board.)

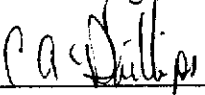
If you have any questions about this form, please call your OLA representative at (916) 341- 6199.

Mail completed documents to:

California Integrated Waste Management Board  
Office of Local Assistance  
1001 I Street, 9<sup>th</sup> Floor  
P.O. Box 4025  
Sacramento, CA 95812-4025

#### General Instructions:

Please complete both Section I and Section II, and Section III if applicable.

<b>Section I: Jurisdiction Information and Certification</b>			
I certify under penalty of perjury that the information in this document is true and correct to the best of my knowledge, and that I am authorized to make this certification on behalf of:			
Jurisdiction Name <b>City of Carlsbad</b>		County <b>San Diego</b>	
Authorized Signature 		Title <b>Administrative Manager</b>	
Type/Print Name of Person Signing <b>Clint Phillips</b>	Date <b>1/30/02</b>	Phone <b>(760) 438-2722 ext. 7110</b>	
Person Completing This Form (please print or type) <b>Susan V. Collins, Hilton Farnkopf &amp; Hobson</b>	Title <b>Senior Associate</b>	Phone <b>(949) 251-8586</b>	
Mailing Address <b>3990 Westerly Place, Ste. 195</b>	City <b>Newport Beach</b>	State <b>CA</b>	ZIP Code <b>9260</b>
E-mail Address: <b>SVCtrash@aol.com, cphil@ci.carlsbad.ca.us</b>			

**Section 2: Background**

1. Was the material type sludge "normally disposed" of as of January 1, 1990 [14 CCR section 18720 (44)]?  
☒ Yes. If yes, please attach documentation\* and proceed to question 2 (\*e.g. copy of table in SWGS showing sludge tons disposed in 1990). **Please see Attachment 5**  
☐ No. If no, **stop**. You may not claim sludge diversion credit [PRC Section 41781 (a)(2)(B)].
2. Is the facility generating sludge (waste water treatment plant, etc.) located within the boundaries of your jurisdiction?  
☒ Yes. If yes, please provide address and go to Question 3.  
**Encinitas Wastewater Authority, 6200 Avenida Encinas, Carlsbad, CA 92009**  
☐ No. If no, **stop**. You may not claim sludge diversion credit.  
Address of facility generating sludge:
3. Is this tonnage claimed for diversion credit representative of the "typical" annual amount of sludge generated by the jurisdiction?  
☒ Yes. If Yes, attach documentation and proceed to Section 3. Documentation could include a letter from the wastewater treatment facility verifying this is annual tonnage.  
☐ No. If No, you may not be able to claim the entire tonnage, please call your Office of Local Assistance representative.

**Section 3: Sludge Diversion Facility/ Activity information**

To claim sludge diversion credit, a jurisdiction must document that the activity used to divert sludge meets certain statutory criteria. A jurisdiction may use the model Sludge Diversion Facility Questionnaire provided by OLA staff to obtain this information from the facility, and then attach the completed questionnaire to its request.

1. Sludge tonnage diverted in (year) from the City/County tons.

**See Attachment 1.**

2. What is the name and address/location of the facility where the sludge is being diverted?

**Encinitas Wastewater Authority, 6200 Avenida Encinas, Carlsbad, CA 92009**

3. Please describe the selected activity used to divert sludge; be as specific as possible (e.g. land spreading, alternative daily cover or other beneficial use at solid waste disposal facility, etc.). Information should describe the method used to divert sludge; application rates; frequency of application, etc.

**See Attachment 1.**

4. Please describe the monitoring program(s) that are in place to insure that the sludge diversion activity will not pose a threat to public health or the environment. Include inspection frequency, names of federal, state, or local agency(s) monitoring, inspecting, or regulating activity, the frequency of analysis of the sludge to verify it is not hazardous, and any systems in place to protect the public health or the environment. Please attach any supporting documentation concerning the analysis of the material.

**See Attachment 6.**

5. Has the sludge diversion activity received a permit or been identified under an existing permit, waste discharge requirements (WDR), or have other conditions been imposed by one or more of the following agencies specified in PRC Section 41781.1?

- (i) The State Water Board and the regional water boards.
- (ii) The State Department of Health Services.
- (iii) The State Air Resources Board and air pollution control districts and air quality management districts.
- (iv) The Department of Toxic Substances Control.

- ☒ Yes. If Yes, go to number 6.  
☐ No. If No, go to number 7.

6. Include the name of the agency(s) and identify the agency identification code or number for the permit, waste discharge requirements, or other imposed conditions. If the facility is a permitted solid waste disposal facility, include the Local Enforcement Agency name and facility's SWIS number.

Agency	Number or Agency Code of Permit, WDR, or other condition
Kern County Dept. of Environment Health Services, Biosolids Land Application	301
CRWQCB, Region 5	97-144 (Kern County, CA)
Riverside County, CA Biosolids Ordinance	696
CRWQCB, Region 8	97-15 (Western Riverside County, CA)
CRWQCB, Region 9	97-12 (Western Riverside County, CA)
CRWQCB, Region 7	97-017 (Eastern Riverside County, CA)
CRWQCB, Region 9	97-032 (Otay Ranch, Chula Vista, CA)

7. Attach written certification from the agent(s) responsible for implementing the sludge diversion activity that the reuse meets all applicable requirements of state and federal law. Information upon which the above certification is based shall be made available to the Board upon request.

**See Attachment 6.**

## **LIST OF ATTACHMENTS**

**Attachment 1: Sludge Diversion Credit Application**

**Attachment 2: CIWMB Agenda Item #10, May 29, 1996**

**Attachment 3: June 12, 1996 letter from Mr. Frank Mannen, Assistant City Manager, City of Carlsbad, to Mr. Robert Frazee, Vice Chairman, California Integrated Waste Management Board (CIWMB)**

**Attachment 4: August 2, 2000 letter from Julie Ross, Management Analyst, City of Carlsbad, to Terri Edwards, CIWMB**

**Attachment 5: Diversion Rate Calculations for 1995-2000**

**Attachment 6: Technical Information from Synagro**

# **ATTACHMENT 1**

## **SLUDGE DIVERSION CREDIT APPLICATION**

## **CITY OF CARLSBAD 2000 ANNUAL REPORT**

### **ATTACHMENT 1 SLUDGE DIVERSION CREDIT APPLICATION**

#### **Introduction**

The City of Carlsbad quantified sludge diversion in its original 1990 Source Reduction and Recycling Element ("SRRE"). The City of Carlsbad ("City") is the home of the Encina Wastewater Authority, which treats wastewater from the City of Vista, the City of Carlsbad, the Buena Sanitation District, and the Vallecitos Water District. The quantification of sludge in the City's SRRE was for tons diverted only (not tons disposed), and only included Carlsbad's proportional share of sludge from the Encina Wastewater Authority, not the full amount of material that is generated by the facility.

In 1996, the California Integrated Waste Management Board ("CIWMB"), subtracted sludge diversion from the City's 1990, 1995 and 2000 diversion and generation totals, because the City had "not yet followed the procedures as outlined in 14 CCR Section 18775.2," to claim sludge diversion credit. Please see attachment #2, which contains the CIWMB Board Meeting Agenda Item #10, from May 29, 1996.

The City wrote a letter of protest regarding the treatment of sewage sludge, in June 1996 (attachment #3). At that time, the City requested to have the sewage sludge tonnages reinstated in the base year. In subsequent years, the City had several conversations with CIWMB staff, and, in consultation with CIWMB staff, decided to wait to apply for sludge diversion credit until the City of San Diego had successfully completed their sludge diversion credit application process. The City notified the CIWMB of its intent to apply for sludge diversion credit in the cover letter to the 1999 Annual Report, which was dated August 2, 2000 (see attachment #4.)

#### **Quantity of Sludge in the Base Year**

With this application, the City desires to have its 1990 base-year modified to account for sludge diversion and disposal which was occurring in the base year. The Encina Wastewater Authority provided documentation indicating that 25,477 tons of sludge were generated in the base year (1990). Of that total, 16,495 tons were diverted, and 8,982 tons were disposed.

The City's approved base year generation was 139,459 tons. Adding sludge generation of 25,477 to that amount yields a total of 164,936, which is the new base year generation figure used to calculate new diversion rates for the City of Carlsbad for 1995 through 2000. These calculations are shown in Attachment #5.

#### **CIWMB-Approved and Revised Diversion Rates for the City of Carlsbad 1995-2000**

	<b>CIWMB-Approved Diversion Rate</b>	<b>Revised Diversion Rate, Including Sludge in Base Year</b>
1995	57%	64%
1996	48%	56%
1997	50%	57%
1998	44%	53%
1999	41%	50%
2000	44%	53%

**CIWMB Requirements**

The CIWMB issued a memorandum to all SRRE coordinators on June 23, 1995, regarding claiming diversion credit for sludge. The CIWMB also issued a "fact sheet" regarding sludge and diversion goal measurement.

According to the June 1995 letter, in order to claim diversion credit for sludge, the jurisdiction must demonstrate compliance with the following requirements. The requirements are listed below, followed by the City's demonstration of compliance.

1. **The facility generating the sludge must be located within your jurisdiction.**

The facility which generates sludge is the Encina Wastewater Authority. It is located within the City of Carlsbad, at 6200 Avenida Encinas, Carlsbad, CA 92009.

2. **The sludge must have been disposed in a Board permitted disposal facility in the base-year.**

The Encina Wastewater Authority (Encina) began diverting sludge in 1985. By 1990, Encina was diverting a majority of the sludge it produced. According to officials at Encina, the remainder was disposed of in the Otay landfill, and the Sycamore landfill, both of which are permitted landfills in San Diego County.

3. **The Solid Waste Generation Study ("SWGS") must include the disposed sludge amounts in the base-year disposal amount (a jurisdiction may revise their SWGS if applicable).**

1990 sludge disposal was referred to in the SWGS and SRRE. A portion of Encina's sludge diversion was included in the City's SWGS, but was deducted from the totals by the CIWMB in May 1996. The attached base-year adjustment requests that the 1990 base-year tonnages be revised to include the sludge that was generated (both diverted and disposed) in 1990.

4. **If the jurisdiction diverts the sludge in 1995 or 2000 (that was disposed in a Board-permitted disposal facility in the base-year), they may claim diversion credit in 1995 and/or 2000 for the sludge if all other criteria are met.**

The City, through Encina, has been diverting some portion of sludge to land application sites since 1985. Encina is currently able to divert about two-thirds of the sludge it generates. The remainder of the sludge, and grit, screenings and scum are all sent to landfill. Original and revised diversion rate calculations are included in attachment #5.

5. **The jurisdiction must submit to the Board a request for allowing sludge diversion as outlined in Title 14, Section 18775.2 and must receive Board approval.**

This attachment constitutes the City's request for sludge diversion credit.

## **CITY OF CARLSBAD 2000 ANNUAL REPORT**

### **Additional CIWMB Requirements**

The jurisdiction must also show that the sludge diversion project has met all applicable laws, has received all necessary permits and has met all conditions imposed by regulatory agencies (who must concur in the Board's findings). The following requirements are taken from Title 14, California Code of Regulations, Section 18775.2. The requirements are listed below, followed by the City's demonstration of compliance.

**6. Description of the selected diversion alternative(s).**

The Encina Wastewater Authority has contracted with Synagro, a residuals management company, to handle all of their treated biosolids (sludge). Most of the City of Carlsbad's sludge is diverted through land application at Synagro's sites in Riverside and San Diego Counties. In the year 2000, all of Encina's sludge was land-applied in San Diego County.

**7. Projected annual quantity of sludge waste to be diverted through the year 2000.**

Synagro has provided documentation on the amounts of sludge diverted in the table below. Data for years 1990 through 1994 is no longer available.

<b>Year</b>	<b>Quantity of Sludge Diverted, Tons</b>
1990	Data not available
1991	Data not available
1992	Data not available
1993	Data not available
1994	Data not available
1995	22,564.55
1996	23,465.69
1997	24,235.67
1998	24,785.57
1999	25,158.80
2000	26,362.15

**8. Documentation that the waste type "sludge" has been categorized, quantified and documented in the applicable "solid waste generation study" (SWGS) as defined in 14 CCR Section 18722.**

See the City's response to requirement number three.

**9. Written certification from the agent(s) responsible for implementing the sludge diversion alternative that the reuse which is proposed meets all applicable requirements of state and federal law. Information upon which the above certification is based shall be made available to the Board upon request.**

See attachment #6 for a written certification from the Synagro's Regional Technical Services Director as well as a description of Synagro's operating practices. Synagro has also provided a quarterly report to the Regional Water Quality Control Board for the fourth quarter of 2000.



10. **Description of monitoring program(s) that are in place or which will be established to ensure that the proposed sludge diversion alternative will continue to not pose a threat to public health or the environment.**

Synagro's monitoring programs are summarized in attachment #6. Additional information can be provided upon request.

## **ATTACHMENT 2**

# **CIWMB AGENDA ITEM #10, MAY 29, 1996**



Cal/EPA

California  
Environmental  
Protection  
Agency

Integrated  
Waste  
Management  
Board

8800 Cal Center Dr.  
Sacramento CA 95826  
(916) 255-2200



Pete Wilson  
Governor

James M. Strock  
Secretary for  
Environmental  
Protection

June 14, 1996

Ms. Julie Ross  
Community Services Department  
City of Carlsbad  
405 Oak Avenue  
Carlsbad, CA 92123

RE: Board Approval of the City of Carlsbad's Source Reduction and  
Recycling Element and Household Hazardous Waste Element

Dear Ms. Ross:

On May 29, 1996, the California Integrated Waste Management Board (CIWMB) voted to approve your final Source Reduction and Recycling Element (SRRE) and Household Hazardous Waste Element (HHWE) for the City of Carlsbad.

The Board determined that the City of Carlsbad's SRRE, presented in the attached Agenda Item, substantially complied with all statutory and regulatory requirements. Those requirements provide that the SRRE evaluate alternatives, select programs for source reduction, recycling, and composting, and discuss market development for the selected alternatives. In addition, the SRRE must address disposal facility capacity, identify target audiences, select public education programs, identify funding sources and contingency measures, and include an implementation schedule. A copy of Agenda Item No. 10 and Board Resolution No. 96-191 approving your SRRE are attached.

During the review of the SRRE for completeness and adequacy, Board staff found items that we recommend be addressed in your Annual Report. Please see the Agenda Item under "Areas of Concern" for recommendations.

The Board determined that the HHWE substantially complied with all statutory and regulatory requirements. Those requirements provide that the HHWE adequately evaluate alternatives, select programs, identify target audiences and public education efforts, identify funding sources, and include an implementation schedule. A copy of the Board Resolution No. 96-192 approving your HHWE is attached.

Finally, the City of Carlsbad will need to submit an Annual Report to the Board no later than August 1, 1997. The Report should discuss progress with program implementation and changes in the City's waste stream or diversion programs, as required by California Code of Regulations section 18771.



Ms. Julie Ross  
June 14, 1996  
Page 2

In closing, we would like to congratulate you on the approval of City of Carlsbad's documents. We look forward to working with you as the City of Carlsbad implements its programs. Should you have any questions about these written findings, please contact Sharron Leao at (916) 255-2653.

Sincerely,

A handwritten signature in cursive script, appearing to read "J. Van Kekenix" followed by a flourish.

Judith J. Friedman, Deputy Director  
Diversion, Planning, and Local Assistance Division  
California Integrated Waste Management Board

Attachments:

- A: Resolution No. 96-191 Approval of the SRRE
- B: Resolution No. 96-192 Approval of the HHWE
- C: Agenda Item No. 10

cc: SANDAG  
401 B Street, Suite 800  
San Diego, CA 92101-4287

CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD

BOARD MEETING  
MAY 29, 1996

SUPPLEMENT TO AGENDA ITEM NO. 10

ITEM: Consideration of Staff Recommendations on the Adequacy of the Source Reduction and Recycling Element and Household Hazardous Waste Element for the City of Carlsbad, San Diego County

STAFF COMMENTS:

At the May 3, 1996 Local Assistance and Planning Committee meeting, staff recommended a conditional approval for the City of Carlsbad's (City's) Source Reduction and Recycling Element (SRRE). Based on information submitted by the City since that meeting, staff recommends the City's SRRE be changed from a conditional approval to an approval.

The City submitted additional documentation in a letter dated May 7, 1996. The additional documentation includes 1995 disposal tonnages, as recorded by the County of San Diego for the City. These new data demonstrate the original projections of solid wastes disposed and diverted for 1995, and 2000 were underestimated.

Board staff subsequently recalculated the City's diversion and disposal rates for 1995 and 2000. Using the new disposal tonnages and revised projections for 2000, correcting for restricted wastes, and removing sludge from diversion and generation in the base-year changes the City's projected 1995 diversion from 23.5% to 57.2%, and projected 2000 diversion from 47.9% to 50.2%.

Carlsbad	Base-year			1995			2000		
	Dis.	Div.	Gen.	Dis.	Div.	Gen.	Dis.	Div.	Gen.
Original Claim	132,510	13,583	146,093	137,259	50,941	188,200	102,738	104,046	206,784
Changes to claimed									
Restricted materials:									
Scrap metals	0	(-63)	(-63)	0	(-63)	(-63)	0	(-63)	(-63)
Sludge	0	(-6,571)	(-6,571)	0	(-8,599)	(-8,599)	0	(-9,448)	(-9,448)
Corrected Totals 5/3/96	132,510	6,949	139,459	137,259	42,279	179,538	102,738	94,535	197,273
Claimed diversion rates		9.3%			23.50%			47.90%	
Corrected Totals	132,510	6,949	139,459	60,691	81,168	141,859	72,000	72,593	144,593
Revised Diversion Rates		5.0%			57.2%			50.2%	

California Integrated Waste Management Board

LOCAL ASSISTANCE AND PLANNING COMMITTEE  
MAY 3, 1996

AGENDA ITEM #10

ITEM: Consideration of Staff Recommendations on the Adequacy of the Source Reduction and Recycling Element and Household Hazardous Waste Element for the City of Carlsbad, San Diego County

STAFF COMMENTS:

The City of Carlsbad's SRRE projects diversion rates for 1995 at 27.1% and 47.9% for 2000. Adjusting for sludge and restricted wastes reduces the percentages to 23.5% and 47.9% respectively. With these wastes removed, the projected diversion rates fall short of the mandated goals for 1995 and 2000.

The City of Carlsbad has identified the following source reduction, recycling, and composting programs to achieve the waste reduction goals of AB 939. Source reduction programs include revising City procurement specifications and auditing the City-generated wastestream. The Recycling Component identifies continuation of the City's residential curbside collection program, implementation of a mandatory commercial/industrial recycling program as well as that of a mandatory yard waste program. The City will highlight composting public education efforts and evaluate the feasibility of a regional composting program. The City will target diversion of construction and demolition debris and evaluate used tire diversion techniques. The City proposes a comprehensive public information and education program to include public service announcements and development on non-English materials.

Staff recommend that the Committee conditionally approve the SRRE for the City of Carlsbad due to a shortfall in the diversion mandates because of sludge and restricted wastes. As a condition the City must include in its first Annual Report a description of expansion of existing programs, or inclusion of additional programs, that will be implemented to reach the 25% mandated diversion goals for 1995 and 2000. The City must also submit a compliance schedule to the Board within 60 days from the date of the conditional approval letter which demonstrates how the City will correct the deficiencies.

SRRE

SRRE ADEQUACY	YES	NO
All required documentation submitted	X	
CIWMB draft comments adequately addressed		X
LTF comments addressed	X	
Meets SRRE criteria (in CIWMP Adequacy Report)	X	
Meets SWGS criteria (in CIWMP Adequacy Report)		X
1995 corrected diversion projection is 25% or more		X
2000 corrected diversion projection is 50% or more		X

Local Assistance and Planning Committee  
May 3, 1996

Agenda Item  
Page 2

Explanation of any "No" responses:

The SWGS, as submitted, does not meet the following criteria. Changes in tonnage are listed in the table below.

Restricted Materials. No documentation was received for the 63 tons of restricted waste types. Staff subtracted 63 tons from diversion and generation in the base-year, 1995, and 2000.

Sludge. The Special Waste Component identifies sewage sludge as a special waste, and states that sewage sludge is generated in the City, at the Encina Water Pollution Control Facility. However, the City has not yet followed the procedures as outlined in 14 CCR Section 18775.2. Therefore, Board staff subtracted 6,571 tons of sludge from Diversion and Generation for the base-year, subtracted 8,599 tons for 1995, and subtracted 9,448 for 2000.

The SWGS as corrected meets the SWGS criteria.

Areas of concern:

Recycling Component - Information on market development was limited in the SRRE. Staff recommend that the City more fully develop a market development strategy for recyclables. The City must include their strategy, along with changes in markets, in its first Annual Report to the Board.

Monitoring and Enforcement - The City should set limits, levels, or thresholds for the criteria identified in each component. Without such specific quantitative standards, progress toward the component objectives and over all diversion goals may be difficult to track. The City must include this information in its first Annual Report to the Board.

Funding Component - The Funding Component lacks information on costs associated with all selected programs and revenue sources to support these programs. The City must include a breakdown of program costs and revenue sources for all selected programs identified in each component and submit the information to the Board in its first Annual Report.

Carlsbad	Base-Year			1995			2000		
	Dis.	Div.	Gen.	Dis.	Div.	Gen.	Dis.	Div.	Gen.
Original Claim	132,510	13,583	146,093	137,259	50,941	188,200	102,738	104,046	206,784
Changes to claimed tonnages:									
Restricted materials:									
Inert solids	0	0	0	0	0	0	0	0	0
Scrap metals	0	(-63)	(-63)	0	(-63)	(-63)	0	(-63)	(-63)
White goods	0	0	0	0	0	0	0	0	0
Subtotal	0	(-63)	(-63)	0	(-63)	(-63)	0	(-63)	(-63)
Sludge	0	(-6,571)	(-6,571)	0	(-8,599)	(-8,599)	0	(-9,448)	(-9,448)
Corrected Totals	132,510	6,949	139,459	137,259	42,279	179,538	102,738	94,535	197,273
Claimed diversion rates		9.3%			27.1%			50.3%	
Corrected diversion rates		5.0%			23.5%			47.9%	

Local Assistance and Planning Committee  
May 3, 1996

Agenda Item  
Page 3

HHWE

This HHWE adequately addresses the requirements of 14 CCR Sections 18750 et. seq. for the following areas:

HHWE Adequacy	Yes	No	HHWE Adequacy	Yes	No
Goals and Objectives	X		Program Implementation	X	
Existing Conditions	X		Monitoring and Evaluation	X	
Alternatives Evaluation	X		Education and Public Information	X	
Program Selection	X		Funding		X

The City will participate in San Diego County's countywide HHW program, which includes periodic collection events, an education and public information program, and loadchecking at county landfills.

Area of Concern

Funding - Because of recent budgeting challenges within San Diego County, staff has concerns regarding the evaluation of funding mechanisms to accommodate potentially changing economic conditions, as they relate to the overall fiscal climate. In their first Annual Report to the Board, the City should include an evaluation of contingency funding mechanisms and should identify any changes in funding sources.

Staff recommends approval of the City's Household Hazardous Waste Element.

ATTACHMENTS:

- 1: Resolution No. 96-191 Conditional Approval for the SRRE for the City of Carlsbad
- 2: Resolution No. 96-192 Approval for the HHWE for the City of Carlsbad

Reviewed by: Sharron Leason *[Signature]* Phone: 255-2653

Reviewed by: Lloyd Dillon *[Signature]* Phone: 255-2303

Reviewed by: Claire Miller *[Signature]* Phone: 255-2378

Reviewed by: John Sitts *[Signature]* Phone: 255-2380

Reviewed by: Lorraine Van Kekerix *[Signature]* Phone: 255-2670

Reviewed by: Patrick Schiavo *[Signature]* Phone: 255-2656

Reviewed by: Judith Friedman *[Signature]* Phone: 255-2376

Legal Review: ED Date/time: 6/23/96



CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD  
RESOLUTION NO. 96-191

FOR CONSIDERATION OF APPROVAL OF THE SOURCE REDUCTION AND RECYCLING ELEMENT FOR THE CITY OF CARLSBAD, SAN DIEGO COUNTY

WHEREAS, Public Resources Code (PRC) Sections 40900 et seq. describe the requirements to be met by cities and counties when developing and implementing integrated waste management plans; and

WHEREAS, PRC Section 41000 requires that each city prepare and adopt a Source Reduction and Recycling Element (SRRE) which includes all of the components specified; and

WHEREAS, California Code of Regulations (CCR) Title 14, Section 18767 requires that jurisdictions provide documentation demonstrating compliance with the California Environmental Quality Act; and

WHEREAS, PRC Section 41001 requires that the City's SRRE include a program for the management of solid waste generated within the City, consistent with the waste management hierarchy provided in PRC Section 40051; and

WHEREAS, the City's SRRE shall place emphasis on implementation of all feasible source reduction, recycling, and composting programs while identifying the amount of landfill and transformation capacity that will be needed for solid waste which cannot be reduced at the source, recycled, or composted; and

WHEREAS, PRC Section 41780 and its implementing regulations require that the SRRE show how the City will achieve the diversion goals of 25% by 1995, and 50% by 2000; and

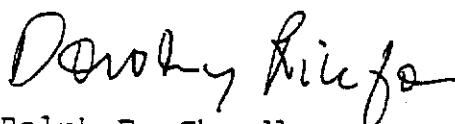
WHEREAS, based on review of the City's SRRE, Board staff found that all of the foregoing requirements have been satisfied and the SRRE substantially complies with PRC Section 41000, et seq. and recommends approval; and

NOW, THEREFORE, BE IT RESOLVED that the Board hereby approves the Source Reduction and Recycling Element for the City of Carlsbad, San Diego County.

CERTIFICATION

The undersigned Executive Director of the California Integrated Waste Management Board does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the California Integrated Waste Management Board held on May 29, 1996.

Dated: MAY 30 1996



Ralph E. Chandler  
Executive Director

CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD  
RESOLUTION NO. 96-192

FOR CONSIDERATION OF APPROVAL OF THE HOUSEHOLD HAZARDOUS WASTE  
ELEMENT FOR THE CITY OF CARLSBAD, SAN DIEGO COUNTY

WHEREAS, Public Resources Code (PRC) Sections 40900 et seq.  
describe the requirements to be met by cities and counties when  
developing and implementing integrated waste management plans;  
and

WHEREAS, PRC Section 41500 requires that each city draft and  
locally adopt a Household Hazardous Waste Element (HHWE) which  
identifies a program for the safe collection, recycling,  
treatment, and disposal of household hazardous waste for the  
city; and

WHEREAS, California Code of Regulations (CCR) Title 14, Section  
18767 requires that each jurisdiction ensure that the California  
Environmental Quality Act has been complied with prior to  
adopting a HHWE; and

WHEREAS, The City of Carlsbad drafted and adopted their final  
HHWE in accordance with statute and regulations; and

WHEREAS, The City of Carlsbad submitted their final HHWE to the  
Board for approval which was deemed complete on February 9, 1996,  
and the Board has 120 days to review and approve or disapprove of  
the Element; and


WHEREAS, based on review of the HHWE, Board staff found that all  
of the foregoing requirements have been satisfied and that the  
HHWE substantially complies with PRC Sections 41500, et seq., and  
recommends its approval;

NOW, THEREFORE, BE IT RESOLVED that the Board hereby approves the  
Household Hazardous Waste Element for the City of Carlsbad.

CERTIFICATION

The undersigned Executive Director of the California Integrated  
Waste Management Board does hereby certify that the foregoing is  
a full, true and correct copy of a resolution duly and regularly  
adopted at a meeting of the California Integrated Waste  
Management Board held on May 29, 1996.

Dated: MAY 30 1996



Ralph E. Chandler  
Executive Director

## **ATTACHMENT 3**

**June 12, 1996 letter from Mr. Frank  
Mannen, Assistant City Manager, City  
of Carlsbad, to Mr. Robert Frazee,  
Vice Chairman, California Integrated  
Waste Management Board (CIWMB)**



# City of Carlsbad

## Office of the City Manager

June 12, 1996

Mr. Robert C. Frazee  
Vice Chairman  
California Integrated Waste Management Board  
8800 Cal Center Drive  
Sacramento, CA 95826

Dear Mr. Frazee:

The City was recently informed by telephone that sludge, which had been documented in Carlsbad's 1990 Source Reduction & Recycling Element as diverted, was deemed an excluded waste and removed from Carlsbad's diversion and generation tonnages. As Carlsbad's disposal reduction from base year stood at 57% in 1995, this, itself, does not pose a major problem. However, the Encina Wastewater Authority has requested the San Diego Solid Waste Authority to allow sludge to be disposed of in County landfills. Should this occur, disposal (which was not even allowed to be considered generated in 1990) would increase which would substantially impair Carlsbad's ability to continue exceeding its disposal reduction goals.

Rick Graff, General Manager at Encina, assured City staff that Encina remains committed to recycling and only has requested ability to landfill sludge as a "fail-back" option should the current sludge markets evaporate. The City applauds Encina's long-standing commitment to recycling and appreciates the need for fail-safe planning. However, it is ironic that Encina's proactive recycling efforts which began in 1985, have not assisted, and may in fact hinder, Carlsbad's achievement of disposal reduction goals.

Currently, Encina estimates sludge production at 23,000 tons annually. As Carlsbad disposed of only 61,235 tons total in 1995, this could impact Carlsbad's goals significantly. The City requests the Board consider either reinstating sludge diversion and generation tonnages in Carlsbad's base year figures or not count any future sludge disposal be apportioned amongst all jurisdictions served by Encina.

We are confident this issue can be resolved equitably and appreciate any assistance you can provide. Should you have any questions, please call me at (619) 434-2823.

Sincerely,

A handwritten signature in cursive script that reads "Frank Mannen".

FRANK MANNEN  
Assistant City Manager

ma

- c: James C. Hagaman, Administrative Services Projects Manager  
Julie Ross, Management Analyst, Community Services Department  
Rick Graff, General Manager, Encina Wastewater Authority  
Claire Miller, Waste Characterization and Analysis Branch, CIWMB



## ATTACHMENT 4

August 2, 2000 letter from Julie Ross,  
Management Analyst, City of Carlsbad,  
to Terri Edwards, CIWMB



# City of Carlsbad

Public Works

August 2, 2000

Terri Edwards  
California Integrated Waste Management Board  
8800 Cal Center Drive  
Sacramento, CA 95826

Dear Ms. Edwards:

Per our e-mail correspondence, attached is the annual report for the City of Carlsbad. I have attached two diversion rate calculation sheets; one with the existing base year generation tonnages, and another which reflects the tonnage to be added via the sludge petition process. As you can see, the addition of the sludge to Carlsbad's base year effectively increases the 1999 diversion rate from 42% to 50%.

Per the advice of Chris Schmidle, I will be initiating the City of Carlsbad's sludge petition process upon the completion of the City of San Diego's sludge petition process. Please keep me apprised of San Diego's progress as it unfolds.

I appreciate your assistance with the sludge petition process, and look forward to resolving this issue in the near future. Should you require any additional information, or wish to discuss this matter further, please call me at (760) 434-2949. Thank you.

Sincerely,

A handwritten signature in cursive script that reads "Julie Ross".

**JULIE ROSS**  
Management Analyst

c: Assistant City Manager  
Deputy Public Works Director  
Administrative Manager  
Chris Schmidle, CIWMB



## ATTACHMENT 5

# DIVERSION RATE CALCULATIONS FOR 1995-2000

# **CITY OF CARLSBAD 2000 ANNUAL REPORT**

## **1990 SLUDGE QUANTITIES**

**Data Provided by the Encina Wastewater Authority**  
**From the 1990 Sludge Annual Report Monthly Solids Handling Monitoring**

	<b>Screenings</b> <b>Cubic Yards</b>	<b>Grit</b> <b>Cubic Yards</b>	<b>Scum</b> <b>Gallons</b>	<b>Sludge</b> <b>Tons Disposed</b>	<b>Sludge</b> <b>Tons Diverted</b>
January	33.0	42.0	4,000	728	1,213
February	26.4	33.6	4,000	843	998
March	26.4	33.6	5,500	858	1,061
April	33.0	42.0	4,000	792	964
May	31.2	58.8	5,000	761	1,306
June	26.0	49.0	5,000	694	1,054
July	33.0	42.0	5,000	1,091	1,087
August	33.0	42.0	5,000	686	1,656
September	33.0	42.0	4,000	472	1,572
October	41.0	54.0	6,000	467	1,906
November	36.0	54.0	7,000	318	1,905
December	42.0	63.0	5,000	286	1,773
<b>TOTALS</b>	<b>394.0</b>	<b>556.0</b>	<b>59,500</b>	<b>7,996</b>	<b>16,495</b>
Conversion to Tons	0.5	0.75	0.00625	1	1
<b>1990 TONS</b>	<b>197</b>	<b>417</b>	<b>372</b>	<b>7,996</b>	<b>16,495</b>

	<b>Tons</b>	<b>Percent</b>
Total Sludge Disposal	8,982	35%
Total Sludge Diversion	16,495	65%
Total Sludge Generation	25,477	100%

### **REVISION TO CARLSBAD'S BASE-YEAR GENERATION**

	<b>To ns</b>
CIWMB -Approved Base Year Generation	139,459
1990 Sludge Generation	25,477
Revised 1990 Generation	164,936



**CITY OF CARLSBAD 2000 ANNUAL REPORT**

**DIVERSION RATE CALCULATIONS**

Diversion Rate Calculations for 1995-2000, Without Sludge in Base Year

	1995	1996	1997	1998	1999	2000
Approved Base Year Generation WITHOUT Sludge	139,459	139,459	139,459	139,459	139,459	139,459
Estimated Reporting Year Generation, Using Adjustment Method	141,922	143,944	155,337	175,200	180,003	195,311
Ratio of Reporting Year to Base Year	1.018	1.032	1.114	1.256	1.291	1.400
Reporting Year Disposal	61,235	74,499	78,417	97,678	106,083	109,479
Reporting Year Estimated Diversion	80,687	69,445	76,920	77,522	73,920	85,832
Diversion Rate	57%	48%	50%	44%	41%	44%

Diversion Rate Calculations for 1995-2000, With Base Year Revised to Include Sludge Generation

	1995	1996	1997	1998	1999	2000
Base Year Generation WITH Sludge	164,936	164,936	164,936	164,936	164,936	164,936
Ratio of Reporting Year to Base Year	1.018	1.032	1.114	1.256	1.291	1.400
REVISED Estimated Reporting Year Generation	167,905	170,214	183,739	207,160	212,932	230,910
Reporting Year Disposal	61,235	74,499	78,417	97,678	106,083	109,479
Reporting Year Estimated Diversion	106,670	95,715	105,322	109,482	106,849	121,431
Diversion Rate	64%	56%	57%	53%	50%	53%

Note: the CIWMB diversion rate calculator was used to calculate diversion rates for 1999 and 2000, using both the CIWMB-approved base year and the revised base year, as shown on the following pages.

**Integrated Waste Management Board**

**Board Approved/Accepted Diversion Rate Report**

Rep: of 7/31/2001.

Jurisdiction: **Carlsbad**

County: **San Diego**

Board Action: **Board Approved**

Board Action **Aug 1998**

Date:

Reporting-Year: **1995**

Resolution #: **1998-275**

Base-Year:	1990
Base-Year Generation Amount (tons):	139,459
Base-Year Residential Generation Rate (%):	31
Base-Year Residential Generation	43,441
Base-Year Non-Residential Generation:	96,018
Reporting-Year Disposal Amount (tons):	61,235
Reported Disaster Waste (tons):	0
Reported Medical Waste (tons):	0
Reported Regional Diversion Facility Residual Waste (tons):	0
Reported Out-of-State Diverted Waste (tons):	0
Reported Sludge Diverted Waste (tons):	0
Reported Other Disposal Amount (tons):	0
Total Disposal Reduction Credit Amount (tons):	0
Total Adjusted Reporting-Year Disposal Amount after credits (tons):	61,235

	Source	Base-Year	Reporting-Year	% Change
Population:	County	2,498,016	2,658,600	6.4%
Taxable Sales (x1000):	Jurisdiction	849,284	971,558	14.4%
Employment:	County	1,145,690	1,155,300	0.8%
Consumer Price Index:	Metropolitan	138.4	156.8	13.3%
Change in Residential Sector (%):			3.5%	Growth
Change in Non-Residential Sector (%):			0.9%	Growth
Estimated Reporting-Year Generation Tonnage:			141,922	

The Board approved/accepted reporting-year Diversion Rate (%): **57**

Return to Jurisdiction Diversion Rate Summary or Countywide, Regionwide and Statewide Jurisdiction Diversion Progress Report

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Lar Stephens: [lstephen@ciwmb.ca.gov](mailto:lstephen@ciwmb.ca.gov) (916) 341-6241  
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# Integrated Waste Management Board

Attachment 2  
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## Board Approved/Accepted Diversion Rate Report

Report as of 7/31/2001.

Reporting-Year: 1996

Jurisdiction: Carlsbad  
 County: San Diego  
 Board Action: Board Approved  
 Board Action Aug 1996  
 Date:

Resolution #: 1996-275

Base-Year:  
 Base-Year Generation Amount (tons):  
 Base-Year Residential Generation Rate (%):  
 Base-Year Residential Generation  
 Base-Year Non-Residential Generation:

1990  
 139,459  
 31  
 43,511  
 95,948  
 74,499

Reporting-Year Disposal Amount (tons):

Reported Disaster Waste (tons):  
 Reported Medical Waste (tons):  
 Reported Regional Diversion Facility Residual Waste (tons):  
 Reported Out-of-State Diverted Waste (tons):  
 Reported Sludge Diverted Waste (tons):  
 Reported Other Disposal Amount (tons):

0  
 0  
 0  
 0  
 0  
 0  
 0

Total Disposal Reduction Credit Amount (tons):

0

Total Adjusted Reporting-Year Disposal Amount after credits (tons):

74,499

	Source	Base-Year	Reporting-Year	% Change
Population:	Jurisdiction	63,292	68,000	7.4%
Taxable Sales (x1000):	Jurisdiction	849,284	1,013,896	19.4%
Employment:	County	1,145,700	1,170,700	2.2%
Consumer Price Index:	Metropolitan	138.4	160.9	16.3%

Change in Residential Sector (%): 4.7% Growth  
 Change in Non-Residential Sector (%): 2.4% Growth  
 Estimated Reporting-Year Generation Tonnage: 143,944

The Board approved/accepted reporting-year Diversion Rate (%): 48

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## Integrated Waste Management Board

### Board Approved/Accepted Diversion Rate Report

Report of 7/31/2001.

Jurisdiction: Carlsbad

County: San Diego

Board Action: Board Accepted

Board Action Date: Feb 2000

Reporting-Year: 1997

Resolution #: 2000-96

Base-Year:	1990
Base-Year Generation Amount (tons):	139,459
Base-Year Residential Generation Rate (%):	31
Base-Year Residential Generation	43,441
Base-Year Non-Residential Generation:	96,018
	78,417
Reporting-Year Disposal Amount (tons):	
Reported Disaster Waste (tons):	0
Reported Medical Waste (tons):	0
Reported Regional Diversion Facility Residual Waste (tons):	0
Reported Out-of-State Diverted Waste (tons):	0
Reported Sludge Diverted Waste (tons):	0
Reported Other Disposal Amount (tons):	0
Total Disposal Reduction Credit Amount (tons):	0
Total Adjusted Reporting-Year Disposal Amount after credits (tons):	78,417

	Source	Base-Year	Reporting-Year	% Change
Population:	Jurisdiction	63,292	70,100	10.8%
Taxable Sales (x1000):	Jurisdiction	849,284	1,164,145	37.1%
Employment:	County	1,145,690	1,227,200	7.1%
Consumer Price Index:	Metropolitan	138.4	163.7	18.3%
Change in Residential Sector (%):			10.0%	Growth
Change in Non-Residential Sector (%):			10.3%	Growth
Estimated Reporting-Year Generation Tonnage:			155,337	

The Board approved/accepted reporting-year Diversion Rate (%): 50

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## Integrated Waste Management Board

### Board Approved/Accepted Diversion Rate Report

Report as of 7/31/2001.

Jurisdiction: **Carlsbad**  
County: **San Diego**  
Board Action: **Board Accepted**  
Board Action Date: **Feb 2000**

Reporting-Year: **1998**

Resolution #: **2000-96**

Base-Year:	1990
Base-Year Generation Amount (tons):	139,459
Base-Year Residential Generation Rate (%):	31
Base-Year Residential Generation	43,232
Base-Year Non-Residential Generation:	96,227
Reporting-Year Disposal Amount (tons):	97,678

Reported Disaster Waste (tons):	0
Reported Medical Waste (tons):	0
Reported Regional Diversion Facility Residual Waste (tons):	0
Reported Out-of-State Diverted Waste (tons):	0
Reported Sludge Diverted Waste (tons):	0
Reported Other Disposal Amount (tons):	0

Total Disposal Reduction Credit Amount (tons):	0
--	---

Total Adjusted Reporting-Year Disposal Amount after credits (tons):	97,678
---	--------

	Source	Base-Year	Reporting-Year	% Change
Population:	Jurisdiction	63,292	73,700	16.4%
Taxable Sales (x1000):	Jurisdiction	849,284	1,469,843	73.1%
Employment:	County	1,145,700	1,273,000	11.1%
Consumer Price Index:	Metropolitan	138.4	166.9	20.6%

Change in Residential Sector (%):	18.0%	Growth
Change in Non-Residential Sector (%):	21.5%	Growth
Estimated Reporting-Year Generation Tonnage:	175,200	

The Board approved/accepted reporting-year Diversion Rate (%): **44**

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### Step 3: Calculation Worksheet Result

Reporting-Year: 1999  
 Diversion Goal: 25%

<http://www.ciwmb.ca.gov/LGTools/MARS/DRMCnew.asp?VW=RsV2&fu=73&Yr=1999>

## Diversion Rate Measurement Calculation Step 3: Calculation Worksheet Result

This is the result of the diversion rate calculation. Any changes to the default numbers are marked with an asterisk (\*) and colored in red. View [charts](#) for additional information.

Jurisdiction: **Carlsbad**  
County: **San Diego**

Reporting-Year: **1999**  
Diversion Goal: **25%**

Base-Year:

Base-Year Generation Amount (tons):

Base-Year Residential Generation Rate (%):

Base-Year Residential Generation

Base-Year Non-Residential Generation:

Reporting-Year Disposal Amount (tons):

Reported Disaster Waste (tons):

Reported Medical Waste (tons):

Reported Regional Diversion Facility Residual Waste (tons):

Reported Out-of-State Exports (Diverted) (tons):

Reported Sludge Diverted Waste (tons):

Reported Other Disposal Amount (tons):

Total Disposal Reduction Credit Amount (tons):

Total Adjusted Reporting-Year Disposal Amount (tons):

	Source	Base-Year	Reporting-Year	% Change
Population:	Jurisdiction	63,292	77,600	22.6%
Taxable Sales (x1000):	Jurisdiction	849,284	1,543,838	81.8%
Employment:	County	1,145,700	1,316,300	14.9%
Consumer Price Index:	State	135.0	168.5	24.8%

Change in Residential Sector (%): 26.4% Growth

Change in Non-Residential Sector (%): 30.3% Growth

Estimated Reporting-Year Generation Tonnage: 212,887

The Calculated Reporting-Year Diversion Rate (%): **58%**

Click on the "Form Letter" button to display a printable form a Jurisdiction can sign and return to the Board as part of its Annual Report. Signing the form indicates acceptance of the calculation worksheet results with the stated diversion rate.

[Form Letter](#)

[Return to Jurisdiction Diversion Rate Summary](#)

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Integrated Waste Management Board

## Diversion Rate Measurement Calculation Step 3: Calculation Worksheet Result

This is the result of the diversion rate calculation. Any changes to the default numbers are marked with an asterisk (\*) and colored in red. View [charts](#) for additional information.

Jurisdiction: **Carlsbad**  
County: **San Diego**

Reporting-Year: **2000**  
Diversion Goal: **50%**

Base-Year:	1990
Base-Year Generation Amount (tons):	139,459
Base-Year Residential Generation Rate (%):	31
Base-Year Residential Generation	43,441
Base-Year Non-Residential Generation:	96,018
Reporting-Year Disposal Amount (tons):	109,479
Reported Disaster Waste (tons):	0
Reported Medical Waste (tons):	0
Reported Regional Diversion Facility Residual Waste (tons):	0
Reported Out-of-State Exports (Diverted) (tons):	0
Reported Sludge Diverted Waste (tons):	0
Reported Other Disposal Amount (tons):	0
Total Disposal Reduction Credit Amount (tons):	0
Total Adjusted Reporting-Year Disposal Amount (tons):	109,479

	Source	Base-Year	Reporting-Year	% Change
Population:	Jurisdiction	63,292	82,000	29.6%
Taxable Sales (x1000):	Jurisdiction	849,284	1,815,354	113.8%
Employment:	County	1,145,700	1,362,100	18.9%
Consumer Price Index:	State	135.0	174.8	29.5%

Change in Residential Sector (%): 35.8% Growth  
Change in Non-Residential Sector (%): 42.0% Growth  
Estimated Reporting-Year Generation Tonnage: 195,311

The Calculated Reporting-Year Diversion Rate (%): **44%**

Click on the "Form Letter" button to display a printable form a Jurisdiction can sign and return to the Board as part of its Annual Report. Signing the form indicates acceptance of the calculation worksheet results with the stated diversion rate.

[Form Letter](#)

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## Diversion Rate Measurement Calculation Step 3: Calculation Worksheet Result

This is the result of the diversion rate calculation. Any changes to the default numbers are marked with an asterisk (\*) and colored in red. View charts for additional information.

Jurisdiction: **Carlsbad**  
County: **San Diego**

Reporting-Year: **2000**  
Diversion Goal: **50%**

Base-Year:  
Base-Year Generation Amount (tons):  
Base-Year Residential Generation Rate (%):  
Base-Year Residential Generation  
Base-Year Non-Residential Generation:

Reporting-Year Disposal Amount (tons):

Reported Disaster Waste (tons):  
Reported Medical Waste (tons):  
Reported Regional Diversion Facility Residual Waste (tons):  
Reported Out-of-State Exports (Diverted) (tons):  
Reported Sludge Diverted Waste (tons):  
Reported Other Disposal Amount (tons):

Total Disposal Reduction Credit Amount (tons):

Total Adjusted Reporting-Year Disposal Amount (tons):

	Source	Base-Year	Reporting-Year	% Change
Population:	Jurisdiction	63,292	82,000	29.6%
Taxable Sales (x1000):	Jurisdiction	849,284	1,815,354	113.8%
Employment:	County	1,145,700	1,362,100	18.9%
Consumer Price Index:	State	135.0	174.8	29.5%

Change in Residential Sector (%): 35.8% Growth  
Change in Non-Residential Sector (%): 42.0% Growth  
Estimated Reporting-Year Generation Tonnage: 230,992

The Calculated Reporting-Year Diversion Rate (%): **53%**

Click on the "Form Letter" button to display a printable form a Jurisdiction can sign and return to the Board as part of its Annual Report. Signing the form indicates acceptance of the calculation worksheet results with the stated diversion rate.

**Form Letter**

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## **ATTACHMENT 6**

# **TECHNICAL INFORMATION FROM SYNAGRO**



*A Residuals Management Company*

July 25, 2001

Ms. Julie Ross  
City of Carlsbad  
405 Oak Avenue  
Carlsbad, CA 92008-3009

Subject: Encina Wastewater Authority  
Beneficial Reuse of Encina Water Pollution Control Facility Biosolids

Ms Ross:


This letter shall serve as our certification that the operations of Synagro West, Inc. comply with all federal, state, and local regulations regarding the land application of biosolids in California and Arizona.

Synagro West, Inc. land application operations meet management practices, site restriction, and vector attraction reduction requirements as set forth in USEPA 40 CFR Part 503 regulations. In addition, Synagro operations fulfill site registration requirements of the Arizona Department of Environmental Quality, and comply with waste discharge requirements of the various California Regional Water Quality Control Boards. All operations in California are in full compliance with county ordinances that govern the beneficial reuse of biosolids.

Should you require additional information, please contact me at (909) 277-2662, extension 23.

Sincerely,

SYNAGRO WEST, INC.

  
Mark A. Grey, Ph.D.  
Regional Technical Services Director

cc: Jeff Parks, Encina Wastewater Authority

### Biosolids Evaluation and Testing

Synagro Technologies, Inc. uses biosolids from water reclamation or wastewater treatment plants that produce clean, stabilized biosolids. The criteria that Synagro Technologies, Inc. uses to determine the acceptability of biosolids from any given source are:

- a. The biosolids must be non-hazardous. This must be demonstrated in accordance with the procedures that are specified in Title 22, Division 4.5, Chapter 11, Article 3, California Code of Regulations (Title 22), or by other tests acceptable to the Regional Water Quality Control Board, for each plant from which biosolids are to be accepted.
- b. The biosolids must meet, at a minimum, the standards specified in 40 CFR 503 for Class B biosolids for priority pollutants, pathogen reduction, and vector attraction reduction and be certified on the Notice and Necessary Information (NANI form). Any "process to significantly reduce pathogens" (PSRP), as defined in 40 CFR 503 Appendix B, will produce biosolids that meet Class B standards. In addition, the biosolids must meet standards for vector attraction reduction specified in 40 CFR 503.33.
- c. The biosolids must meet Synagro Technologies, Inc.'s standards of suitability for agricultural use, which includes or exceeds the standards expressed in 40 CFR 503.

Synagro Technologies, Inc. provides analytical data for any source of biosolids used. These data are reported to county regulatory agencies on a monthly basis as part of the Synagro Technologies reporting and monitoring program.

### Biosolids Characterization and Evaluation

Biosolids used in Synagro Technologies, Inc.'s program are characterized and evaluated with respect to the criteria listed above. Past and current biosolids analyses are examined before Synagro Technologies, Inc. characterizes a plant as having consistent biosolids quality. Potential new sources are evaluated in a number of ways:

- a. Pathogen reduction and vector attraction reduction treatments are evaluated by Synagro Technologies, Inc. and supporting data will be submitted to regulatory agencies as required. Certification is provided on the NANI form.
- b. Each candidate biosolids will be sampled and analyzed for agronomic parameters, and for metals analyzed in accordance with 40 CFR 503. The suitability of the biosolids for agricultural use will be evaluated based on this analysis. In some cases, additional analytical parameters are included in Synagro West's evaluation process depending on local or state permit conditions.

## *Biosolids Evaluation and Testing* (continued)

### Metals

Biosolids contain trace amounts of various metals. These metals come from the plumbing and sewer systems that carry produced wastewater to the treatment plant, and from the wastewater itself. The small amounts of metals in biosolids are useful to crops as micronutrients, supplying elements needed in small quantities to strengthen the crops and aid growth and development.

The metals of particular interest to land application practices are arsenic, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, selenium, and zinc. The amounts of these and other metals in the biosolids are determined by analysis.

### Organic Chemical Constituents

Traces of organic chemicals have been noted in some wastewater processed in treatment facilities. Although these chemicals could potentially be left in biosolids as trace residues, current pretreatment programs and other facility controls assure that influent wastewater, and hence processed biosolids, are clean. Analysis of biosolids determines the concentrations of various compounds of interest, if any are present.

### Stabilization

All biosolids used in Synagro Technologies, Inc.'s program are stabilized to meet Class B pathogen reduction standards prior to application. In most cases, the treatment process will be anaerobic digestion, but aerobic digestion, lime stabilization, or other Class B compliant processes may be involved.

The same treatment processes used for pathogen reduction, as specified in 40 CFR 503.33, typically meet requirements for vector attraction reduction. In some cases, however, Synagro Technologies, Inc. assures that vector attraction reduction requirements are met by incorporation of the biosolids into the soil within six hours of application, as described in 40 CFR 503.33(b)(10).

Request forms signed by both the farm operator and the landowner (if they differ) insure that precautions for use of biosolids are observed. Signed request forms for the fields on which Synagro Technologies, Inc. proposes to spread biosolids are maintained in Synagro Technologies, Inc. offices.

### Moisture and Consistency

Biosolids used in this program will usually be de-watered by centrifuge, belt press, or drying beds, depending on practices at the source plants. The biosolids will contain from about 13 percent to about 90 percent total solids. These biosolids will have little or no free water. At the lower end of the total solids range, biosolids typically have a

## *Biosolids Evaluation and Testing* (continued)

consistency of paste or mush. At total solids contents over 50 percent, the consistency is much like that of moist to dry soil. Liquid biosolids (solids content two to 10 percent) may also be used.

### Suitability for Agriculture

Biosolids contain nutrients and soil amendments that are useful for agricultural fertilizer and/or soil amendments. Biosolids from each potential source facility must be evaluated to determine their suitability for land application, based on the nitrogen, organic material, and other nutrients available for crop use.

### Nitrogen

Nitrogen in biosolids is in the form of nitrogen-containing organic compounds, ammonia (ammonia-N), and small amounts of nitrates if aerobic stabilization processes are used (nitrate-N). After biosolids are incorporated into the soil, the process of mineralization gradually transforms the organic nitrogen into forms that can be used by the crop. Ammonia-N and nitrate-N are immediately available. The plants benefit by the extended availability of nitrogen, rather than having all the nitrogen made available in only a brief interval, as is the case with chemical fertilizers. Most of the nitrogen is made available to the crop the first year, but some of the organic nitrogen persists to provide small amounts of nutrients in successive years.

### Organic Matter

Organic matter in biosolids provides a benefit to the soil by improving tilth and water penetration, providing plant nutrients, stabilizing micronutrients, and facilitating aeration and release of carbon dioxide from beneficial microorganisms already present in the soil.

### Sulfate

Sulfate is soluble in water, therefore, much of the sulfate in biosolids is removed with the filtrate in the de-watering process. Any sulfate remaining in the biosolids is a benefit to the growers, as growers often apply sulfur as a supplement.

### Micronutrients

Biosolids commonly contain a number of minor essential elements, called micronutrients, needed by plants to grow and maintain health. Boron, copper, manganese, molybdenum, and zinc are examples of these micronutrients. Biosolids from the sources noted herein contain all these elements in appropriate amounts for beneficial reuse.

### Agronomic Sampling

*Biosolids Evaluation and Testing*  
*(continued)*

Biosolids samples will be obtained from each prospective source that Synagro Technologies, Inc. considers for its land application program. These samples will be analyzed for a number of elements and compounds of interest for agricultural fertilizers.

The biosolids will be compared with the suitability criteria expressed in the 40 CFR 503. Additional evaluation by Synagro Technologies, Inc. will be performed to determine whether the biosolids are desirable for land application. Agronomic data for suitable biosolids will be used to calculate appropriate application rates for each crop that will be grown on the application sites.



*A Residuals Management Company*

November 29, 2000

Chris Gonaver  
Chief of Land & Water Quality Division  
San Diego County  
Dept. of Environmental Health  
P.O. Box 129261  
San Diego, CA 92112-9261

Dear Mr. Gonaver:

Attached is Synagro-WWT, Inc.'s (fka Wheelabrator Water Technologies Inc. - Bio Gro Division) October 2000 Monthly Monitoring Report for land application in San Diego County.

If you have any questions regarding this submittal or require additional information, please do not hesitate to call me at (510) 613-2834.

Sincerely,

Mark Grey  
Technical Services Manager

MG/km  
Enclosures

cc: Jeff Faust - WWTI - Bio Gro  
Chris Marks, Jeff Thurber - RPI/Bio Gro  
Emanuel Alloh - City of Los Angeles  
Bruce Dale - Encina Wastewater Authority  
Guss Pennell, Mark Anderson - City of Oceanside  
Mike Moore - Orange County Sanitation District



# DOSAGE RATE EVALUATION REPORT

Biosolids Type: ENCINA WASTEWATER AUTHORITY, CA ENCINA WPCF (EN)

PARAMETER	CONCENTRATION	
	PPM (mg/kg)	LBS/DRY TON
PA-N (Inject)	20865	41.73
PA-N (Surface)	14180	28.36
Phosphorus (P)	28233	56.47
Potassium (K)	1500	3.00
Arsenic (As)	2.53	<.01
Cadmium (Cd)	3.17	<.01
Chromium (Cr)	54.10	0.11
Copper (Cu)	531.67	1.06
Lead (Pb)	45.30	0.09
Mercury (Hg)	1.54	<.01
Molybdenum (Mo)	14.23	0.03
Nickel (Ni)	31.40	0.06
Selenium (Se)	6.80	0.01
Zinc (Zn)	1389.67	2.78

Concentrations are an average of lab analyses from 06/01/00 through 09/30/00.

# FIELD REPORT

Crop: RYE, WHEAT  
Planting Date: 12/00  
Harvest Date: 6/01  
Date As Of: 11/01/00  
Permit No: 97-32

Field: SD 2 - 8  
Total Acres: 444.4  
Total Hectares: 180.0  
Applic. Method: SURFACE APPL.  
Latitude: 32°37'16"  
Longitude: 116°58'48"  
Field Incomplete

WET TONS APPLIED: Month to Date: 1329.75 Year to Date: 3652.01

WET TONS/ACRE APPLIED: Month to Date: 2.99 Year to Date: 8.22

DRY TONS/ACRE APPLIED: Month to Date: 0.62 Year to Date: 2.57

\*\*\*\*\* P O U N D S P E R A C R E A P P L I E D \*\*\*\*\*  
( Kilograms Per Hectare Applied )

PARAMETER	MONTH TO DATE	YEAR TO DATE	PROJECT TO DATE
PAN	17.09	42.61	
P	36.44	127.49	
K	3.28	5.67	
As	<.01 (<.01)	0.02 (0.02)	0.15 (0.17)
Cd	0.02 (0.02)	0.04 (0.04)	0.17 (0.19)
Cr	0.09 (0.10)	0.41 (0.46)	3.05 (3.42)
Cu	0.79 (0.88)	2.80 (3.14)	21.46 (24.04)
Pb	0.07 (0.08)	0.41 (0.46)	2.75 (3.08)
Hg	<.01 (<.01)	0.02 (0.02)	0.11 (0.12)
Mo	0.02 (0.02)	0.09 (0.10)	0.76 (0.85)
Ni	0.09 (0.10)	0.32 (0.36)	2.33 (2.61)
Se	0.02 (0.02)	0.03 (0.03)	0.26 (0.29)
Zn	1.53 (1.71)	4.31 (4.83)	33.14 (37.12)

## DAILY FIELD LOADING SHEET

DATE APPLIED	TYPE	% SOLIDS	AMOUNT	UNIT	DRY TONS
10/26/00	EN	18.35	47.32	WET TONS	8.68
10/26/00	HY	24.59	145.55	WET TONS	35.79
10/26/00	OSLR	14.88	46.04	WET TONS	6.85

SD 2 - 8

DAILY FIELD LOADING SHEET (Continued)

DATE APPLIED	TYPE	% SOLIDS	AMOUNT	UNIT	DRY TONS
10/27/00	EN	18.35	71.09	WET TONS	13.05
10/27/00	HY	24.59	122.55	WET TONS	30.14
10/27/00	OLS	15.70	22.95	WET TONS	3.60
10/27/00	OSLR	14.88	22.91	WET TONS	3.41
10/28/00	EN	18.35	23.66	WET TONS	4.34
10/28/00	HY	24.59	146.96	WET TONS	36.14
10/28/00	OSLR	14.88	45.41	WET TONS	6.76
10/30/00	EN	18.35	92.69	WET TONS	17.01
10/30/00	HY	24.59	48.35	WET TONS	11.89
10/30/00	OLS	15.70	20.92	WET TONS	3.28
10/30/00	OSLR	14.88	65.94	WET TONS	9.81
10/31/00	EN	18.35	93.22	WET TONS	17.11
10/31/00	HY	24.59	222.53	WET TONS	54.72
10/31/00	OSLR	14.88	91.68	WET TONS	13.64
TOTALS:			1329.75	WET TONS	276.21 DT 250.52 MT

F I E L D R E P O R T

Crop: RYE, WHEAT  
Planting Date: 12/00  
Harvest Date: 6/01  
Date As Of: 11/01/00  
Permit No: 97-32

Field: SD 2 - 9  
Total Acres: 739.0  
Total Hectares: 299.3  
Applic. Method: SURFACE APPL.  
Latitude: 32°36'36"  
Longitude: 116°58'06"  
Field Incomplete

WET TONS APPLIED: Month to Date: 5337.98 Crop Year to Date: 17094.59

WET TONS APPLIED: Year to Date: 28635.55

DRY TONS/ACRE APPLIED: Month to Date: 1.44 Crop Year to Date: 6.03  
Year to Date: 11.01

\*\*\*\*\* P O U N D S P E R A C R E A P P L I E D \*\*\*\*\*  
( Kilograms Per Hectare Applied )

PARAMETER	MONTH TO DATE	CROP YEAR TO DATE	YEAR TO DATE	PROJECT TO DATE
PAN	40.34	137.03	211.70	
P	86.78	333.65	463.94	
K	5.98	15.22	26.67	
As	0.01 (0.01)		0.08 (0.09)	0.15 (0.17)
Cd	0.03 (0.03)		0.19 (0.21)	0.26 (0.29)
Cr	0.22 (0.25)		1.80 (2.02)	3.18 (3.56)
Cu	1.85 (2.07)		12.91 (14.46)	21.59 (24.18)
Pb	0.16 (0.18)		1.69 (1.89)	2.77 (3.10)
Hg	<.01 (<.01)		0.07 (0.08)	0.11 (0.12)
Mo	0.05 (0.06)		0.39 (0.44)	0.71 (0.80)
Ni	0.23 (0.26)		1.69 (1.89)	2.65 (2.97)
Se	0.03 (0.03)		0.16 (0.18)	0.28 (0.31)
Zn	3.36 (3.76)		18.19 (20.37)	32.13 (35.99)

D A I L Y F I E L D L O A D I N G S H E E T

DATE APPLIED	TYPE	% SOLIDS	AMOUNT	UNIT	DRY TONS
10/02/00	EN	18.35	94.29	WET TONS	17.30

SD 2 - 9

DAILY FIELD LOADING SHEET (Continued)

DATE APPLIED	TYPE	% SOLIDS	AMOUNT	UNIT	DRY TONS
10/02/00	OSLR	14.88	68.67	WET TONS	10.22
10/03/00	EN	18.35	94.11	WET TONS	17.27
10/03/00	OCSDP2C	22.28	120.38	WET TONS	26.82
10/03/00	OLS	15.70	21.75	WET TONS	3.41
10/03/00	OSLR	14.88	67.79	WET TONS	10.09
10/04/00	EN	18.35	94.36	WET TONS	17.31
10/04/00	OCSDP2C	22.28	119.82	WET TONS	26.70
10/04/00	OLS	15.70	21.74	WET TONS	3.41
10/04/00	OSLR	14.88	22.33	WET TONS	3.32
10/05/00	EN	18.35	70.85	WET TONS	13.00
10/05/00	OCSDP2C	22.28	121.67	WET TONS	27.11
10/05/00	OLS	15.70	22.11	WET TONS	3.47
10/05/00	OSLR	14.88	48.78	WET TONS	7.26
10/06/00	EN	18.35	94.52	WET TONS	17.34
10/06/00	OLS	15.70	22.57	WET TONS	3.54
10/06/00	OSLR	14.88	22.75	WET TONS	3.38
10/07/00	EN	18.35	47.07	WET TONS	8.64
10/07/00	OSLR	14.88	22.62	WET TONS	3.37
10/09/00	EN	18.35	94.15	WET TONS	17.28
10/09/00	OLS	15.70	22.75	WET TONS	3.57
10/09/00	OSLR	14.88	19.98	WET TONS	2.97
10/10/00	EN	18.35	94.93	WET TONS	17.42
10/10/00	OCSDP2C	22.28	120.51	WET TONS	26.85
10/10/00	OSLR	14.88	66.94	WET TONS	9.96
10/11/00	EN	18.35	94.56	WET TONS	17.35
10/11/00	OCSDP2C	22.28	96.89	WET TONS	21.59
10/11/00	OLS	15.70	70.97	WET TONS	11.14
10/11/00	OSLR	14.88	47.68	WET TONS	7.09
10/12/00	EN	18.35	94.58	WET TONS	17.35
10/12/00	OCSDP2C	22.28	122.05	WET TONS	27.19
10/12/00	OSLR	14.88	44.23	WET TONS	6.58
10/13/00	EN	18.35	94.49	WET TONS	17.34
10/13/00	OLS	15.70	21.78	WET TONS	3.42
10/16/00	EN	18.35	94.58	WET TONS	17.35
10/16/00	OSLR	14.88	89.41	WET TONS	13.30
10/17/00	EN	18.35	94.08	WET TONS	17.26
10/17/00	OCSDP2C	22.28	120.14	WET TONS	26.77
10/17/00	OSLR	14.88	65.40	WET TONS	9.73
10/18/00	EN	18.35	94.77	WET TONS	17.39
10/18/00	OCSDP1C	22.71	24.33	WET TONS	5.53
10/18/00	OCSDP2C	22.28	122.00	WET TONS	27.18
10/18/00	OLS	15.70	22.21	WET TONS	3.49
10/18/00	OSLR	14.88	22.36	WET TONS	3.33
10/19/00	EN	18.35	70.61	WET TONS	12.96
10/19/00	HY	24.59	222.51	WET TONS	54.72
10/19/00	OSLR	14.88	44.83	WET TONS	6.67
10/20/00	EN	18.35	118.10	WET TONS	21.67
10/20/00	HY	24.59	247.64	WET TONS	60.89
10/20/00	OLS	15.70	22.61	WET TONS	3.55
10/20/00	OSLR	14.88	44.88	WET TONS	6.68
10/21/00	EN	18.35	70.78	WET TONS	12.99
10/21/00	HY	24.59	194.08	WET TONS	47.72
10/22/00	HY	24.59	24.74	WET TONS	6.08
10/23/00	EN	18.35	94.53	WET TONS	17.35

SD 2 - 9

DAILY FIELD LOADING SHEET (Continued)

DATE APPLIED	TYPE	% SOLIDS	AMOUNT	UNIT	DRY TONS
10/23/00	HY	24.59	200.25	WET TONS	49.24
10/23/00	OLS	15.70	22.71	WET TONS	3.57
10/23/00	OSLR	14.88	88.03	WET TONS	13.10
10/24/00	EN	18.35	94.30	WET TONS	17.30
10/24/00	HY	24.59	126.05	WET TONS	31.00
10/24/00	OSLR	14.88	44.67	WET TONS	6.65
10/25/00	EN	18.35	94.51	WET TONS	17.34
10/25/00	HY	24.59	245.74	WET TONS	60.43
10/25/00	OLS	15.70	22.40	WET TONS	3.52
10/25/00	OSLR	14.88	21.59	WET TONS	3.21
10/26/00	EN	18.35	46.89	WET TONS	8.60
10/26/00	HY	24.59	99.38	WET TONS	24.44
10/26/00	OSLR	14.88	22.27	WET TONS	3.31
TOTALS:			5337.98	WET TONS	1064.40 DT 965.41 MT